1: Beals E-5 (1940-1941) 1946

NU34 Tarasco NU34
Sierra Tarascans

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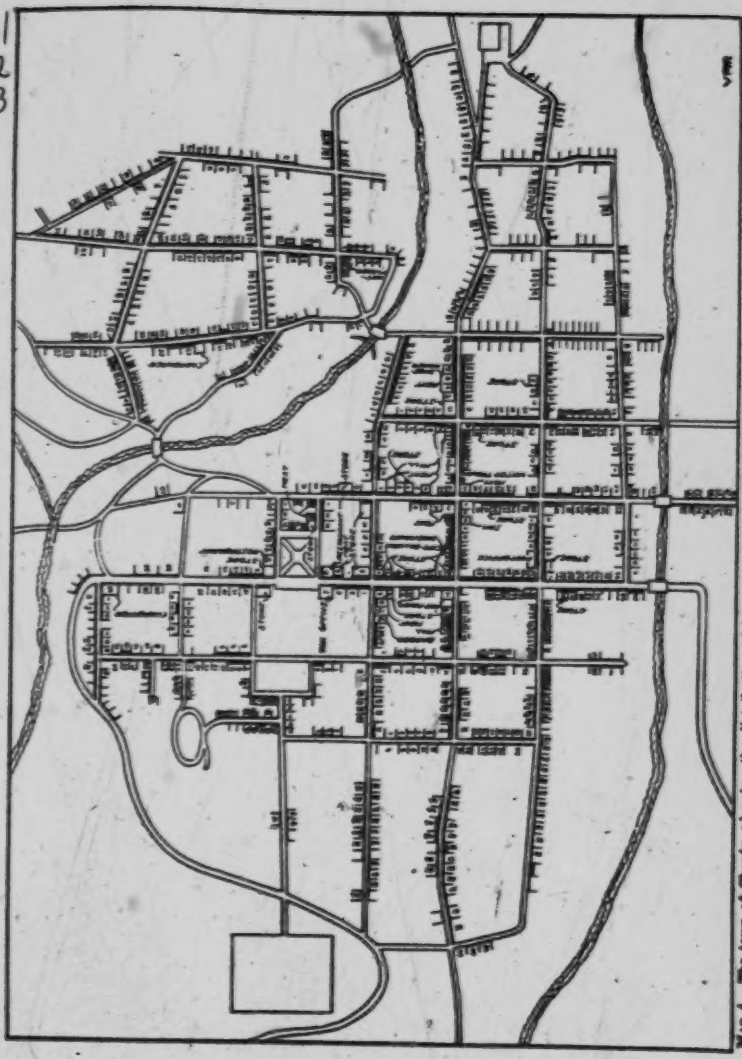

MAP 4.—The town of Cherán, showing the distribution of house types and specialists. The fine line bordering streets indicates vacant property. The medium line indicates the presence of wooden structures without masonry (although the lot may be walled with masonry). The heavy line indicates the presence of masonry or adobe structures. The majority of the latter also have one or more wooden structures on the same lot. Location of the majority of the specialized businesses or occupations is shown. The numbers refer to the house numbering system as of 1940.

[p. 10]

CHERÁN: A SIERRA TARASCAN VILLAGE—BEALS

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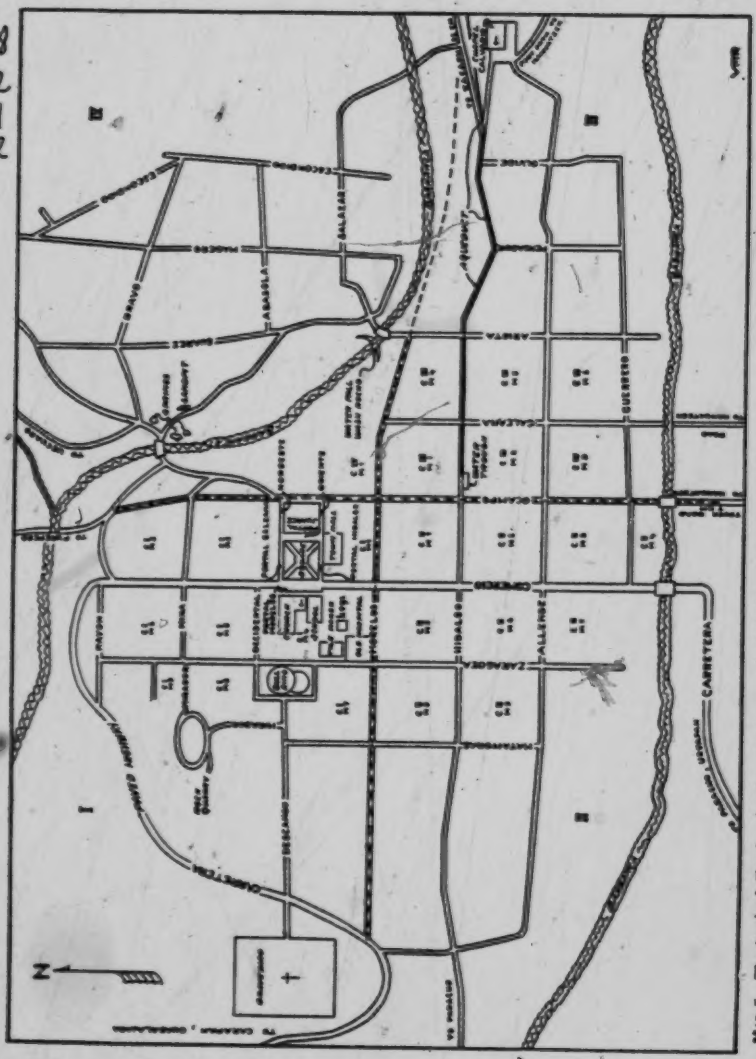

MAP 5.—The town of Cherán, showing street names and the barrio numbers. C, cuartel, or barrio; M, manzana, or block. Numbers indicate the town numbering system.

[p. 11]

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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USES OF THE TARASCAN HOUSE

STORAGE

343 251 The Cherán house is really a storehouse. The loft and, sometimes, the lower floor are employed for storage of crops and food reserves. The lower floor is used for the storage of clothing, furniture not in immediate use, and for the family altar and the image of the saint. On occasion, it may be used as a sleeping room for guests. Supplementary sheds also may be used for crop storage, especially for fodder for animals.

SLEEPING AND COOKING

362 574 Cooking and eating is all done in the kitchen. Guests may be fed in the kitchen, outside, on the house veranda, or in the house. Female visitors are usually entertained in the kitchen. Male visitors are more apt to be entertained outdoors or on the house veranda, depending on the weather.

362 513 In mountain towns, sleeping is always in the

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
NU34 Tarasco NU34
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USES OF THE
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362 513 kitchen. With few exceptions, the entire family sleeps on mats about the fire. Cold weather and lack of bedding are given as the reasons for this. Even where a masonry-adobe structure with a bed exists, the family normally sleeps in the kitchen.

362 On ceremonial occasions modifications occur. The house to some extent becomes a center of activities, while cooking will move into the open or under supplementary sheds. These occasions are not many. In the main, family life takes place outdoors when the weather permits; in the kitchen when it does not. The term "house" in practice is a euphemism, and some members of the family may not enter the structure for days at a time.

592 362 125 ## HOUSE SIZE AND HOUSEHOLD SIZE

A survey of Cherán houses was made to determine the relationship between size of buildings

592 and the number of persons in the household. A
362 sampling technique was used, and about 5 percent
125 of the houses in each *barrio*, or *cuartel*, were measured and a census of their inhabitants taken. The only subjective factor in the study was the selection of houses for measurement. An effort was made to select houses in different classifications more or less in the proportions in which they seemed to occur in the *cuartel*. As this study was done only after several months of familiarity with the town, it is believed the subjective error is not large. Comparative data are given from the town of Sevina. In the latter town, two streets were selected, and data taken from every house on each of the two streets from the central plaza to the edge of town.

592 It is evident that in an appreciable number of
362 cases more than one family occupies a lot. This
[735] situation may be due to several causes. In some
[591] instances, it is a reflection of extreme poverty. In others, it results from sons remaining with their parents after marriage. In some instances also sons or sons and daughters may jointly occupy a lot inherited from their parents without subdividing the property.

362 In those cases where no house existed, 15 out
[735] of 52, poverty is indicated. It is true, however, that cases may exist where the person may be relatively comfortable financially and has not built a house because he has no agricultural land and hence no great need for storage space. In most cases where more than 1 family occupied a lot, there is a separate kitchen for each family. In the 22 cases in which more than 1 family occu-

362 pied a lot, 6 had no house. These cases must be ascribed to poverty in all probability. The same is true of the 4 cases where single families occupying a lot had no houses. The housing situation suggests, then, that 19.2 percent of Cherán residents are inadequately housed according to Cherán standards.

Considerable inequality in the amount of living space per person is evident, even when averages from the different *cuartels* are compared. This difference is even more marked in terms of the individual families. Individual households may vary from 179 square feet of living space per person to as little as 22 square feet per person. This inequality appears less marked, however, if only kitchen space is considered. In view of living habits, the amount of space per person in the kitchens is a more accurate indicator of living conditions. This also varies appreciably from household to household but the range appears to be from 14 square feet (1.3 sq. m.) of kitchen space per person in cases with a house also—or from about 20 square feet (1.85 sq. m.) in cases without a house—to as high as 95 square feet (8.82 sq. m.) per person. The smallest kitchens, with relation to number of persons, appear in cases with a house as well. However, the largest kitchen space appears in connection with households also having a house or houses.

It is probable that a number of these families are inadequately housed according to Tarascan standards, but no minimum figure can be set from present knowledge. An abstract minimum of the proper number of square feet per person

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
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TABLE 6.—*Data on Cherán houses showing relation between size of house and number of persons in household in comparison with similar data on Sevina houses*

Town and cuartel	Data													
	Lots	Houses measured	Families per lot		Persons per lot		House size per lot		Average living space		Average storage space per lot	Average kitchen area		Remarks
			Average	Range	Average	Range	Average	Range	Per lot	Per person		Per lot	Per person	
Cherán:	No.	No.	No.	No.	No.	No.	Feet	Feet	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.	
Cuartel 1	100	10	1.7	1-3	5	2-11	12X14	9X9-18X18	196	39	194	197	40	6 out of 10 lots had no house.
Cuartel 2	260	13	1.6	1-3	5	2-16	14X16	11X9-28X40	340	68.3	178	142	28	4 out of 13 had no house.
Cuartel 3	300	17	1.53	1-3	5.47	2-10	15X17	12X13-28X32	420	80.3	200	184	35	3 out of 17 had no house.
Cuartel 4	270	13	1.6	1-3	5.25	2-9	13X11	9X9-22X30	220	45	78	90	19	2 out of 13 had no house.
Sevina		23	1.4	1-3	4.67	2-8	15½X13½	9X7-24X32	482	97	286			

[p. 29C]

362 could be established, however, in which case the number of inadequately housed persons could be calculated from the data given.

362 184 Little comparative information is available on the subject of house use. In a number of areas where masonry-adobe structures predominate, however, it is apparent that the kitchen is not

[continued on p. 306]

CEREMONIAL AND SOCIAL FUNCTIONS RELATED TO THE TARASCAN HOUSE

CEREMONIES

342 Two ceremonial activities are common in connection with Cherán house construction. One is extremely simple; it consists of placing a cord, on which are tied several small bunches of flowers, over every door and window of the structure as the frame and lintel are completed. No particular beliefs connected with this could be discovered, but it is almost always done.

The second ceremonial event in connection with house building occurs when the shakes are placed on the roof. For such an event, called "*combate*," there is usually a sizeable fiesta, and most of the relatives of the owner come. Close relatives may also aid in the cost of the ceremony. In addition, the master builder and a corps of assistants attend the ceremony. It is virtually impossible to complete a house without holding this ceremony. In one case, an informant did not wish to give the ceremony (this occurred while working for the survey on which this paper is based), but first a cousin offered to supply the music for the fiesta, and then an uncle offered to supply the atole. Both insisted on knowing the date of the fiesta, and eventually the informant felt he had to hold it.

342 431 476 On the eve of the ceremony, the house owner takes about three packages of cigarettes and a box of matches to the master builder. With these, the builder invites his friends and relatives. If they accept an offered cigarette, they are obligated to appear to help finish the roof. The master builder, however, is obligated to respond to a similar invitation. These helpers nail on the shakes; the relatives of the house owner may assist in handing up the shakes and other needed materials, but they do not assist in the nailing.

All the relatives of the house owner are invited

●362 used for sleeping ordinarily. This seems to be
184 true of the Lake, Zacápu, and Cañada sections. How far this is a function of the type of architecture and how far it is due to climatic conditions remains to be established. In general, the Sierra region is colder and sleeping is in the kitchen even where masonry-adobe buildings exist.

CEREMONIAL AND SOCIAL FUNCTIONS RELATED TO THE TARASCAN HOUSE

342 and are expected to attend or send excuses. When
431 they arrive, they give the householder or his wife
476 a package of cigarettes or 10 or 15 centavos, which is regarded as the equivalent of the package of cigarettes. The men present their cigarettes to the man of the house, the women to the wife.
[576] The man salutes those who make this present, tipping his hat and shaking hands. The women also shake hands and curtsey. The women help in the preparation of food, while the men help the master builder and his assistants with the roof.

342 After the work is well along, a bottle of *aguar-*
264 *diente*, or *charanda*, is circulated at intervals among those working. When the work is com-
476 pleted, the men are fed, then all the boys. They are all seated on two logs facing one another. Male relatives of the house owner assist in serving; sometimes a *compadre* will aid also if he is a particularly good friend of the householder. The women eat in a group near the fires where cooking
[262] is done. The food is the regular ceremonial food: tortillas, beef stew with chile and cabbage (čurípu), and tamales (kurúnda).

342 The master builder meanwhile leaves the house and shortly afterward returns with his wife and other immediate members of his family. They are seated on a mat facing the new house and are fed there. A cross with an arch over it, decorated
[531] with paper flowers, is set in the middle of the ridge of the roof. It is said to protect the house against violent storms and the devil.[6] The house

[6] Use of the cross on the house is common throughout the Tarascan area. In most of the Sierra towns, the crosses are only some 10 inches (25 cm.) in height, but in Parícutin they are over a meter (39 in.) tall. Here the cross is placed against the house wall, and often with a vase or jar for flowers tied to it. Tile-roofed houses have the cross painted in white on the tiles, fastened to the wooden "shoe" supporting the ridge pole, or carved on the capital.

In Paracho, the priest is often brought to bless a new house. Two men go to request the priests' presence. They are regarded as godfathers of the house and become *compadres* of the house owner and the master carpenter.

[364] only on the days preceding a town fiesta. The 653 householder is also expected to work on certain community enterprises, such as repairing roads or bridges and the water system. Likewise, unless 625 he occupies some special position which exempts him, or is well along in years, he will be expected at times to join the *ronda*, or night watch, which polices his *cuartel*, or *barrio*.

Cherán is unique in its attitude toward visitors. 351 We have already mentioned the general occurrence of fences. These are usually high enough to prevent passers-by on the street from peering into the house yard. Visitors always knock at the 574 gate or call out, announcing themselves. As some- 609 times the inmates will not respond to a knock, the call is useful in getting a response. Unless the visitor is a relative, *compadre*, or neighbor

[Continued on p.326]

RELATION OF THE TARASCAN HOUSE TO THE ENVIRONMENT

CHERÁN

362 The wooden house, or "*troje*," of Cherán is relatively dry but, in the absence of any method of heating, it is uncomfortably cold most of the year, especially at night. The kitchen floor is [354] frequently damp; although it is heated by fire, ventilation is inadequate, and the smoke often irritating to eyes and throat. On windy days, also, drafts whistle through cracks or under the lower edges of the walls. The masonry-adobe type of construction also presents drawbacks. It is not heated either and, while wind is less apt to penetrate, it is often unsatisfactorily ventilated. Moreover, the dampness climbs up through the walls at least 6 months of every year and into every corner of the room.

Probably the "*troje*," or house loft, can most 251 easily be made impervious to rodents if it be well 362 built, and if bunches of cactus be fastened at strategic points on the outside walls. Rarely, however, is this true. In addition, the roof often permits entry of birds, particularly half-wild domesticated pigeons, and scarcely ever is anything done to prevent their forays on the maize. It is doubtful if the masonry-adobe structure is superior in any respect for loft storage. For main-floor storage it probably is inferior owing to the greater dampness. [Continued bottom of

[p.324] page 326]

574 609 with whom especially friendly relations exist, normally the visitor is not invited into the house yard. Conversation takes place at the gate of the yard; if it bids fair to be protracted, the householder may even step into the street and continue the conversation there, closing the gate behind him.

351 574 184 So far as is known, customs in other mountain towns are similar in all respects except for the attitude toward visitors. In most towns fences are rarer than in Cherán, and the visitor is invited to enter. In Sevina, it is customary for the visitor to push open the gate, pass into the middle of the house yard, and then announce himself. Two Cherán men who accompanied Beals to Sevina, commented at length on this difference; they were quite plainly shocked at the custom.

RELATION OF THE TARASCAN HOUSE TO THE ENVIRONMENT

362 136 The major insect pests are fleas. In some villages there are also bedbugs. There seems little to choose between the various types of structures, although the earthen floor of the kitchen facilitates the activities of fleas. At certain seasons of the year, all Tarascan houses swarm with fleas to such an extent that the residents often cannot get a satisfactory night's sleep.

Apparently, the climatic conditions are not propitious for large numbers of houseflies or related species. Those that do exist, however, have free access into houses. Mosquitoes and other noxious insects are unknown at Cherán.

362 164 [515] In the lack of good medical statistics, it is impossible to estimate the relation between health and housing conditions. Fleas may be responsible for the transmission of some cases of typhus and perhaps other diseases. Relative to most places in Mexico, however, insect-borne disease is probably at a minimum. Head lice and, to some extent, body lice occur, despite thorough weekly baths, and the crowded living and sleeping conditions in the kitchen must facilitate transmission of the insects.

The most serious health hazards of the Tarascan house probably lie in the damp condition much of the year, lack of ventilation, and close crowding of the inmates, especially at night. These conditions facilitate the spread of all diseases trans-

362 mitted by contact and particularly respiratory
164 and pulmonary infections. Although data are lacking, a high incidence of tuberculosis is suspected. There seems little to choose between various house types for health.

COMPARATIVE DATA

184 Most Sierra towns, on superficial acquaintance,
362 seem to have similar conditions. Local variations, of course, occur as the result of differences in rainfall and temperature (functions of location and altitude) and the number of animals kept (causing variations in the number of flies).

[Continued on P. 33b]

HISTORY OF THE TARASCAN HOUSE

342 In this section we try to determine the antiquity
173 of modern house types. We do not include all the data found in early sources referring to pre-Spanish houses and house uses, but base our study of the history of the Tarascan house on modern tradition and especially on the writings of the 16th century. Traditions appear to supply useful data concerning the last century or so. The houses of stone and adobe are usually considered to be relatively recent introductions in the Sierra region, but of older use in the Lake area.[2] This view is supported by the relatively greater frequency of stone and adobe in the towns showing most Mestizo influence. In the Lake region, it is remembered that wooden structures once were more frequent. In La Cañada, at Chilchota, the lack of adequate streets is referred to the older custom of building houses in the center of the lot.

Among the variant wooden-house types discussed, kitchens of poles and *"trojes"* and the trója kosína of logs are regarded as the oldest types. Tools, until recently were limited to the ax, adze, chisel, and awl. Shakes were fastened with wooden pins or stones.

Beyond a century, however, tradition is of no value. The pre-Hispanic Tarascans and those of a few generations ago are merged into *"los antepasados"* and, unless an historically known event is referred to, it is difficult to know to what period a tradition refers. So, even if data on

[1] This section is almost entirely the work of Pedro Carrasco.
[2] In this connection, it should be recalled that the Sierra uses the Spanish word adobe, while in the Lake area a native word (tsukukata) is known.

3:Beals, Carrasco & McCorkle E-5 (1940-1942)1944
NU34 Tarasco NU34
Sierra Tarascans
Pátzcuaro
Cañada

362 In lower and drier areas such as La Cañada, where different house types occur, information is 184 inadequate to make any useful comparison. Masonry-adobe structures are probably less damp, but flies are more numerous. In the Lake region, there are also mosquitoes, apparently including those of the *Anopheles* genus. Dr. D. F. Rubín de la Borbolla tells us that in Tzintzutzan on Lake Pátzcuaro he suspects the population to be 100 percent infected with malaria. The cause of this, naturally, is only to a very slight extent related to housing conditions, although screening of sleeping quarters no doubt would somewhat lower the chances of infection.

HISTORY OF THE TARASCAN HOUSE[7]

342 houses of the *antepasados* were given, they would [173] be untrustworthy.

Some of the data available from the 16th 342 century refer to a wider area than that covered 127 by this study. These include the "Relaciones geográficas"[8] of the 16th century and the dictionary of Gilberti.[10] The "Relación de Michoacán," on the other hand, refers only to events occurring about Lake Pátzcuaro.[11]

The "Relaciones geográficas," written about 1580, refer almost entirely to houses with adobe walls and straw roofs, adding that they often are small and of little shelter. In the valley of the Río Balsas, houses of *bajareque* (poles or canes interwoven and plastered with clay) are described but this type is not referred to in *tierra fría*. Sahagún remarks: "Sus casas eran lindas, aunque todas ellas de paja."[12]

In Gilberti, reference is also made to adobe (iauárukata), stone (tsintsicata), and wood ("tsirincata, *hacer casas de caña o palos*"; "tsirindacata, *casa así hecha*"). In addition to "quahta, *casa*" (today k'uta', in Angahuan), Gilberti gives "*casa pajiza*, quaqua, acarutaqua, acxcata."

The plates of the "Relación de Michoacán" show that houses usually had a rectangular floor plan or, perhaps, sometimes a round floor plan (fig. 19, *j*, *k*; *m* is described in the text as a provisional

[8] Relaciones geográficas de Michoacán, unpublished. Copy in the National Museum of Mexico.

[10] F. Maturino Gilberti. Vocabulario en lengua de Michoacán, México, 1559.

[11] Relación de las ceremonias y ritos y población y governación de los indios de la provincia de Michoacán. Morelia, 1903.

[12] Fr. Bernardino de Sahagún. Historia general de las cosas de Nueva España. T. 3, p. 125. Mexico, 1938.

3:Beals, Carrasco & McCorkle E-5 (1940-1942)1944
NU34 Tarasco NU34
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342 Chiapas, where *ladinos* use tiles or shakes for their houses while Indians continue to use thatch.
177 It seems sound, then, to assume that shakes
[171] were introduced into Mexico by a small group of Spaniards, and that their use spread rapidly and intensely in wooded country. As shakes were probably unknown to a great part of the Spaniards, the Nauatl descriptive word prevailed over the Spanish one.

342 The history of shakes and of interlocked log
171 structures cannot, however, be resolved definitively without taking into account all the data from Middle America. At the present time, log structures are found among the Trique, Mixteca, and Mixe in Oaxaca; in the region between Perote and Jalapa, in the Sierra de Puebla; and among the Tepehuano and the Tarahumara. Shakes have a wider distribution.

343 The modern use of the Spanish word *troje* and
127 the Tarascan *ƚarímba* (in Angahuan) suggests that these were once granaries which have evolved into the modern wooden house. In the "Relación

[Continued on p.366]

CONTEMPORARY TARASCAN HOUSING PROBLEMS

●362 In the Introduction of this paper, a number of problems were discussed relating to the evaluation of Tarascan housing.

Although accurate determination of value standards for setting ideal goals for Tarascan houses is not pretended, some general conclusions seem possible. Tarascan houses are below the most desirable health standards from the standpoint of dryness, ventilation, protection from cold, and freedom from insects. In general, the wooden type of architecture is less damp and better ventilated. It is perhaps less warm, a deficiency compensated for by use of the fire in the kitchen, with the additional drawback, of course, of smoke irritation of the eyes and respiratory tract. There seems little to choose between the two types of construction from the standpoint of rodents and insects.

Economically, the masonry-adobe type of construction seems to be a little cheaper. For most Sierra Tarascans, however, this advantage is illusory and only holds for those who can afford to hire all the labor done. The masonry-adobe construction calls for the employment of specialists throughout. Most Sierra Tarascan males, on

[p.366] [Continued bottom of page 366]

343 de Michoacán" we read about *trojes* for storing
127 food, clothes, and idols, but no reference is made to the shape or building materials of these *trojes*. Probably we have here a precedent to the clear-cut distinction between *troje* and *cocina* of the modern Sierra Tarascans.

342 To summarize, we may conclude that the pre-
174 Hispanic houses were predominantly of adobe,
177 with thatched, four-shed roofs. The Spaniards introduced tile roofs and modifications in the architectural type. On the other hand, new iron tools and building techniques (shakes and probably interlocking logs) favored the use of wood in construction on a large scale. Although wooden houses have their center of distribution in the Sierra, they are still found in the regions of Uruapan, La Cañada, Lake Pátzcuaro, and elsewhere, once having been much more common in those districts. With timber becoming increasingly scarce, adobe construction has virtually displaced wood in the adjoining districts and is invading the Sierra.

CONTEMPORARY TARASCAN HOUSING PROBLEMS

362 the other hand, are capable of doing a considerable amount of the necessary work on a wooden structure. For those below the higher economic levels, then, it is probable that wooden structures are potentially less expensive than are those of masonry and adobe. In other words, in terms of the distribution of skills within the population, wooden structures are more apt to produce adequate housing if space be the main objective. It should be observed, however, that this probably is not true in many Lake and Cañada villages, where access to timber is absent or difficult, but skill in making adobe bricks is common.

As has been indicated, about 20 percent of the population of Cherán is inadequately housed according to Tarascan standards. For these, any change in housing conditions quite obviously is related to wider economic problems and conditions. What of the other 80 percent according to ideal standards? Until medical determination is made of the proper amount of living space per person in the Tarascan climate, no complete answer to this question can be made. It can be asserted, however, that better housing is possible for most of this 80 percent if two things could be accom-

362 plished: changes in construction methods, and changes in living habits and house use.

One needed alteration in construction methods is in the direction of better ventilation for living quarters. This means more ventilation for masonry-adobe structures and better controlled ventilation for wooden structures (including adequate smoke-venting). Moisture-proof concrete foundations for masonry-adobe structures would remove a major drawback to this type of construction. Neither of these changes would increase costs beyond the reach of most of the 80 percent who approach present Cherán standards of adequate housing. In less prosperous towns, however, the added expense of concrete foundations would be more serious, particularly in towns not accessible by road.

In Cherán, living habits are a more serious drawback to adequate housing conditions than are economic factors (always excepting the lower 20 percent). As has been shown, actual living goes on in the kitchen, which serves for both eating and sleeping. Much potential living space thus is unused. Whether a wooden or a masonry-adobe house is owned, it is not used for any part

[p. 37a]

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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362 of healthful living. The problem, then, is to secure use of more of the available living space. This may prove more difficult than providing additional living space. It is our impression that the answer to this problem lies partly in introducing practical, economical, and cleanly ways of heating parts of the buildings other than the kitchen, partly in persuading Tarascans to purchase and care for additional bedding and clothing. Economically, the introduction of heating would be easier for the Sierra Tarascans (who can cut their own wood) than would the purchase of more bedding and clothing. Introduction of adequate care for bedding likewise would be difficult.

Essentially, then, for the majority of the Cherán population, improvement of housing conditions is not an economic problem. Rather is it a problem of altering basic patterns of culture. It may be concluded, therefore, that in addition to the economic betterment of the lower segments of the population, a program of education and directed acculturation is required. The housing problems consequently merge into the wider problems of education and culture change.

[p. 37b]

U. S. GOVERNMENT PRINTING OFFICE: 1944